

<b>Inclusion criteria</b>	<p>Patients with COPD, GOLD C or D and FEV1&lt;65%;  AHRF (pH&lt;7,35 and PaCO2≥45mm Hg (≥6kPa) treated more than 24h with Ventilation (non-invasive or invasive);  48h to 2 weeks with pH&gt;7.35, and PaCO2&gt;45 (&gt;6kPa) after NIV withdrawal, during daytime at rest without oxygen or ventilatory support (or with O2 if patients are not able to avoid O2 with immediate desaturation below 80%).</p>
<b>Exclusion criteria</b>	<p>Patient treated with chronic NIV or CPAP device, with ongoing treatment;  Primary diagnosis of restrictive lung disease causing hypercapnia i.e. obesity hypoventilation and chest wall disease, however these patients will be included if the FEV1/FVC ratio is &lt;60% and the FEV1 &lt;50% if the predominant defect is considered to be obstructive by the center clinician;  BMI &gt; 35 kg/m2;  Sedative medication causing hypercapnia (&gt; 3 drugs or more than 20mg of morphin/day);  Polygraphic diagnosis of Obstructive Sleep Apnoea Syndrome (AHI&gt;30/h (French criteria);  Cognitive impairment that would prevent informed consent into the trial  Pregnancy;  Tobacco use &lt; 10 pack-year;  Psychiatric disease necessitating anti-psychotic medication, ongoing treatment for drug or alcohol addiction, persons of no fixed abode post-discharge;  Unstable coronary artery syndrome;  Age &lt;18 years;  Inability to comply with the protocol;  Expected survival&lt;12 months due to any situation other than COPD disease;  Duration of ICU stay&gt;10 days;  No affiliated to national health insurance.</p>