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EPA-EAN statement on Post-COVID syndrome

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This is a joint statement from the European Association of Neurology (EAN) and the European Psychiatric Association (EPA) on Post-COVID. It is published in the official journals of the two associations, the European Journal of Neurology and European Psychiatry.

Dear editor,

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) has rapidly emerged to a pandemic and caused a morbidity and mortality in an inconceivable extend globally [1]. Recognition of persistent symptoms and signs after recovery from initial COVID-19 illness have soon been recognized, and are currently referred to as "Long-COVID". Long-term neurologic manifestations include fatigue, neurocognitive symptoms, sleep-wake disorders, dysautonomia, hyposmia, hypogeusia and pain syndromes among others [2, 3]. Among psychiatric disorders, anxiety, depression, insomnia, cognitive impairment, and post-traumatic stress disorder (PTSD) are the most common**.** Proposed mechanisms include immune dysregulation with persistent low grade (neuro-)inflammation, immune dysregulation, autoimmunity and viral persistence in various tissues [3].

Post-COVID highlights the link and transition between brain diseases and mental health. Accordingly, the Post-COVID syndrome exemplifies the need for clinical, research and teaching collaborations between neurology, psychiatry, infectious diseases and others. Understanding and managing long-term neurological and psychiatric sequelae after COVID-19 will require additional common research investments and health care resources. The European Academy of Neurology (EAN) implemented an international registry to study neurological manifestations and long-term outcome in COVID-19 patients (EAN NEuro-covid ReGistrY, ENERGY*)* soon after the pandemic started [4]. The European Psychiatric Association (EPA) established its "COVID-19 Resource Centre", an online repository of high-quality COVID-19-related resources for both health professionals and the general public *(https://www.europsy.net/covid-19-resource-centre/).* EPA and EAN jointly provide platforms for scientific exchange on COVID-19 and Post-COVID in form of forums and symposia at congresses, conferences and meetings. A joint statement on the needs for patient-centered

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services for Post-COVID care accompanied by research to further understand disease mechanisms, risk factors, and prognosis has been recently published and is based on a collaborative approach for clinical care and research focusing on the following needs [5]:

- Research to better underestand the neurobiological and other determinants of Post-COVID syndrome.
- Identification of specific phenoytpes and biomarkers of Post-COVID syndrome to improve prediction, prevention, diagnosis and treatment.
- Validation of new technologies (patient app, smartwatches, internet based psychological interventions) for early recognition and care of Post-COVID patients.
- Development of international and multidisciplinary recommendations/guideliens for the diagnosis and treatment of Post-COVID syndrome.
- Cross-sectoral and interdisciplinary care concept for Post-COVID integrating tailored prevention, pharmacotherapies and rehabilitation.
- Regular evaluation of the newly developed care structures, patient pathways, the effects of interdisciplinary treatment strategies on the course of the disease.
- Interdisciplinary clinical and research interactions on a national and international level.

Addressing the patient´s needs of Post-COVID syndrome requires a significant investment in existing resources and funding. The EAN and EPA join forces by organizing regular meetings of the "Post-COVID working groups". It is planned to combine data from longitudinal cohorts from both organizations to establish predictive data sets to identify individuals at risk for developing Post-COVID syndrome. In addition, clinical trails are underway to develop evidence based treatments of Post-COVID mental and neurological syndromes. A special attention is being paid to cognitive outcome as they form the basis of unfavourable outcome in a substantial proportion of patients with Post-COVID- syndrom.

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