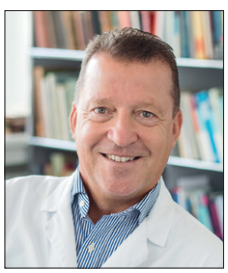
# In Context

TLN_Profile_Bassetti

S1474-4422(20)30146-0

## Profile

# Claudio Bassetti: linking healthy sleep with brain integrity



For the **study on hypersomnia after thalamic stroke** see *Ann Neurol* 1996; **39:** 471–80

For the **sleepwalking case study** see *Lancet* 2000; **396:** 484–85

For the **study on promoting sleep in a rat model of stroke** see *Ann Clin Transl Neurol* 2014; **1:** 765–77

For the **European guideline on the bidirectional relationship between sleep disorders and stroke** see *Eur J Neurol* 2020; published online April 20. DOI:10.1111/ene.14201

For the **proposal of clinical and experimental approaches to assess the role of sleep and neuroplasticity and recovery after stroke** see *J Neurosci Methods* 2019; **313:** 37–43

For the **study of the immune-mediated basis for narcolepsy** see *Nature* 2018; **562**: 63–68

Our virtual interview with Claudio Lino Alberto Bassetti takes place near the beginning of the 2020 global lockdown, but this does not diminish his enthusiasm when speaking about his life and expansive career in clinical neurology. Born in Ticino, in the Italian region of south Switzerland, Bassetti knew from an early age that he wanted to be a doctor. After breaking his leg skiing when he was 14 years old, a 3-month stay in hospital, which might have created despondency in any other adolescent, instead triggered a desire to work in medicine, and he shortly completed a medical degree from the University of Basel (Basel, Switzerland) in 1984. His path to neurology also came early, after taking student electives when he was 23 years old at the Department of Neurology at Massachusetts General Hospital (Harvard University, Boston, MA, USA). He admired the detailed examination and history-taking required in neurology, but felt that one of the challenges at that time was that neurology was mainly a diagnostic field, with few effective treatments available for many important diseases.

Bassetti has been a clinical neurologist in the Italian, French, and German regions of Switzerland, and undertook training and research in the USA, all of which influenced his career in differing ways. He was exposed to the field of sleep research in the 1990s, first in Bern (Switzerland), and later in Ann Arbor (MI, USA), quickly appreciating that normal, healthy sleep is crucial for brain function and brain integrity. His fascination for sleep research was also triggered by observations of patients with thalamic stroke in whom these lesions had profound effects on their sleep patterns (such as sleeping up to 20 hours per day, and sleepwalking). In his seminal case study of a sleepwalker published about 20 years ago, Bassetti showed through the use of single photon emission CT (SPECT) that the dissociation between sleep and mind during sleepwalking arises through the isolated activation of thalamocortical pathways in the presence of a persisting deactivation of the rest of the brain (that is typical of normal deep sleep).

Bassetti's research over the past 25 years has shed light on the bidirectional relationship between sleep and stroke. Using clinical and experimental approaches he showed that sleep disturbances both increase the risk of stroke and worsen its outcome, reporting in both humans and rodents on specific sleep-wake changes following strokes of different topography. More recently, he showed in animal studies that sleep-promoting interventions (with drugs or optogenetic stimulation) given after stroke improve neuroplasticity and functional outcome. His studies and those by other researchers are the basis for a guideline produced by the European Academy of Neurology (EAN) with the European Respiratory Society, the European Sleep Research Society, and the European Stroke Organization on the bidirectional relationship of sleep disorders with stroke, in which, for example, severe obstructive sleep apnoea is reported to double the risk of stroke. Recently, in a 2019 article, Bassetti reported on his work with an international study group, which suggests the use of observational, perturbational, and interventional approaches to understand sleep-related neuroplasticity and recovery of function after stroke.

Over the past 25 years, Bassetti also devoted his attention to the study of neurogenic hypersomnias, including narcolepsy, a rare neurological disorder that presents with excessive daytime sleepiness and cataplexy (ie, sudden loss of muscle tone, usually due to strong emotion). He is particularly proud of a study that showed the presence of hypocretin-specific CD4+ T cells in patients with narcolepsy, giving the first direct support for an immune-mediated basis of the disease. Currently, he is undertaking a large multicentre study to identify new biological markers of narcolepsy and related conditions, with a view to diagnose the disease sooner and personalise treatment.

Bassetti's former mentor Christian W Hess (University of Bern, Bern, Switzerland) comments "Bassetti is a great neurologist, scientist, and teacher. He undoubtedly is one of the most respected researchers in clinical neurology in the areas of sleep and stroke, where he has become firmly established as an influential opinion leader." Hess notes that Bassetti, even early in his career, "distinguished himself from his peers through his astute analysis of clinical problems, from where he often developed research ideas". He adds that "as a leader with a strong character his sharp insight and precise judgement are matched by typical Latin warmth and generosity."

Currently president elect of the EAN, Bassetti believes that motivation and leadership are needed to address important issues such as the future of general neurology and advocacy for neurological patients. He is particularly proud of the team of clinicians and researchers that he works with—Hess observes "he inspires young academics to engage with clinical research in neurology." Bassetti, who speaks six languages, likes to spend his free time with his wife and three young sons, playing basketball, listening to classical and jazz music, reading, and travelling. From August, 2020, he will also become the new dean of the faculty of medicine in Bern University. There will be much more work and new challenges, but as Hess comments "[Bassetti] spares no effort to motivate and bring together the relevant groups to achieve [important] goals."

*Priya Venkatesan*