# Smoking may now be considered an established risk factor for Lou Gehrig's disease

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While previous studies have indicated a "probable" connection between smoking and ALS, a new study published in the Nov. 17, 2009 issue of *Neurology*, the medical journal of the American Academy of Neurology, states that smoking may now be considered an "established" risk factor for Amyotrophic Lateral Sclerosis (ALS), also known as Lou Gehrig's disease.

The findings come from Baystate Medical Center neurologist Dr. Carmel Armon, an ALS researcher and neuroepidemiologist, who came to this conclusion using evidence-based methods to perform a rigorous analysis of studies examining the link between smoking and developing ALS -- a fatal neurodegenerative disease affecting the motor nerves and the voluntary muscles.

"Application of evidence-based methods separates better-designed studies from studies with limitations that may not be relied on. The better-designed studies show consistently that smoking increases the risk of developing ALS, with some findings suggesting that smoking may be implicated directly in causing the disease," said Dr. Armon, a professor of neurology at Tufts University School of Medicine and chief of neurology at Baystate Medical Center in Springfield. He is also a fellow of the American Academy of Neurology.

According to Dr. Armon, identifying smoking as an established risk

factor for ALS has three implications.

"First and foremost the findings provide a link between the environment and the occurrence of ALS, where none had been previously identified with this level of certainty," said Dr. Armon.

"Additional implications are that since smoking has no redeeming features, avoidance of smoking may reduce the occurrence of ALS in the future, and since some of the mechanisms by which smoking causes other diseases in humans are understood fairly well, recognizing its role in the occurrence of ALS may help pinpoint the biological processes that initiate the disease," added the researcher.

The Baystate Medical Center neurologist noted that focusing on processes at initiation of sporadic ALS, and close to it, may provide new avenues to treatment to stop its progression.

"This has been realized in some animal models of familial ALS, but not in humans. The hope that these concepts may apply to sporadic disease and change its outlook in the future is supported by establishing the association of smoking with ALS occurrence," concluded Dr. Armon.

ALS takes the lives of half of those affected within three years of onset of weakness, with less than five percent surviving more than 10 years. Some 90-95 percent of cases appear to occur at random ("sporadic cases'), with 5-10 percent of cases having an affected blood relative ("familial cases"). An altered gene, several of which have been identified, is implicated in causing familial ALS. Prior to this report, no external factors have been implicated with this level of confidence as contributing to the occurrence of sporadic ALS.

Source: Baystate Medical Center