

## MEDICAL PHILATELY

## Jose Acosta &amp; Altitude Sickness

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Jose Acosta portrait Stamp-Spain 1967

**J**ose Acosta (1540-1600) is perhaps the first individual to describe in detail the altitude sickness; hence it is called **Acosta's disease**. Altitude sickness is variously known as acute mountain sickness (AMS), hypobaropathy and *puna soroche* in local language (Peru). Disorders are caused due to rapid ascent without acclimatization. Symptoms generally occur at 12,000 feet (3600 meters). Some evidence suggest genetic component in altitude sickness. Fall in barometric (atmospheric) pressure lead to low partial pressure of O<sub>2</sub>. This leads to bad headache, nausea, dizziness, sleepiness and exhaustion. Acute mountain sickness can progress to high altitude pulmonary edema (HAPE) - with cough, breathlessness, pinkish sputum and fever. High altitude cerebral edema (HACE) causes, head ache, vomiting, dizziness, pins and needles sensation, unsteady gait, and coma. HAPE and HACE are potentially fatal and can only be cured by immediate oxygen administration or descent to lower altitude. Many mountain climbers tend to underestimate symptoms. Chronic mountain sickness is a different condition that



Huascaran-Blanca range of the Western Andes Mountains. Peru-190\*

only occurs after long term exposure to high altitude

Jose Acosta was born in Madina Del Campo in Spain. He became a Jesuit missionary who was also interested in medicine and natural sciences. Acosta was to be sent to Peru and left Spain in 1570 at the age of 30. He reached Panama and had to climb the Andes (world's longest mountain 4300 miles long and average 1300 feet in height), with 15 companions to reach his destination, across the mountain province of *Huascaran* (25,200feet) and by the lofty pass of *Pariacaca* (14,000 feet).. Whole party suffered from the effects of rarified atmosphere. Acosta described these sufferings, which were repeated on other occasions. He asserted that mountain sickness was due to lack of air and described symptoms, progression, sequel and prognosis.

Acosta became interested in exploration, archeology, medicine, history of the new continent and conducted numerous studies. He studied the effects of tobacco leaves and noted that large amount of tobacco caused headache and is capable of causing paralysis; while

local application of mixture of tobacco leaves and ashes could heal ulcers. Acosta also mentions an attack of snow blindness and the way in which Indian woman cured it.

Viceroy Toledo founded the University of St. Mark at Lima where Acosta occupied the chair of theology. Next he published '*The principles of Church*' in *Quincha* language, the first printing ever done in Peru. After 15 years of labor, he planned to return to Spain. He journeyed by land to Mexico City. Acosta continued his detailed observations. Here again he availed himself of collecting information touching the civilization, religion of Aztecs, and natural products of this country. He detailed all the information in his manuscripts. After arriving in Spain in 1587 he published his first books by the king's order. The main- '*Historia natural y moral des las Indias*' are written in 7 volumes. Mountain sickness is described in third volume of this book. The book was translated in many languages. *Historia* also described Inca and Aztec customs, winds, tides, lakes, rivers; plants, animals and mineral resources in the New World. This book established his reputation, as it was one of the very first realistic descriptions of the New World. Acosta became lecturer at the University of Salamanca in 1587. He was called '**Pliny** of the New World'.

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