Medic Journey Expedition: **Himalaya 2013**

**Medics on the Mount - Research**

**OUR MISSION**

MJExped2013 is a medical research expedition, one of the largest of its kind in history. Our goal is to carry out ground breaking human physiological research on ascent to a dizzying height of 22,500ft. Through our hard efforts and with a strong level of social awareness, the team is also setting themselves the target of raising $100,000 for charity, to support them in their endeavors of improving the health and lives of millions of children across the globe.

**OUR HISTORY**

Building on our accomplishment from TeamEverest 2007 in which the team carried out an expedition to Base Camp of Mt. Everest, the team aims to develop a strong legacy in the field of High Altitude Medicine and science. Developing further advanced research protocols to better our understanding of the domain.

From a 'rag tag bunch of medical students' as described by Sir Chris Bonnington in 2007, to a mature group of doctors and scientists, the expedition team has developed significantly over the past 6 years. Sharing a passion for the extremes, the group understands the importance of this expedition and the defining role it could play in the field.
THE SCIENCE

Commonly referred to as *altitude sickness*, Acute Mountain Sickness (AMS) is caused by the acute exposure to rapidly decreasing oxygen levels found at high altitudes (hypoxia). The condition is inevitable, without precautions, above 8,000 feet. AMS can progress swiftly from headaches and weakness, to the accumulation of fluid in the lungs and sometimes to death. Susceptibility to AMS is unpredictable, and may strike even the most experienced mountaineer without proper acclimatization.

Everyday millions of critically ill patients are fighting for their lives as their bodies attempt to counteract the adverse effects of low oxygen. Understanding how oxygen is transported and utilized in our bodies is of fundamental importance in helping each and every one of these patients. Through subjecting our own bodies to the low levels of oxygen which arises through high altitude, our team of scientists and doctors shall be carrying out cutting edge research on ourselves to help increase our understanding in this important domain.

MJExped2013 will conduct a study up to and including the summit looking at the physiological response to hypoxia across human systems. With 150 willing subjects, MJExped2013 will be among the largest field studies of its kind.

THE EXPEDITION

Mera Peak lies in the Himalayas, in the Sagarmatha region of Nepal, south of Everest. Its summit lies at 6,476 metres (21,247 ft) above sea level. The first ascent was on May 20, 1953 by Col. Jimmy Roberts and Sen Tenzing. The region was first explored extensively by British expeditions in the early 1950’s before and after the ascent of Everest. Members of those teams included Sir Edmund Hillary, Eric Shipton and George Lowe. The view from the summit is one of the finest in the Himalaya with five 8,000m peaks visible: Mount Everest, Lhotse, Cho Oyu, Makalu, and Kangchenjunga, as well as other Himalayan peaks.
The team will be composed of trekkers from across the globe, comprising of volunteers as well as doctors and research scientists. The team aims to reach a final team strength of 150 individuals from across various ages, genders and walks of life.

**THE CLIMB**

MJExped2013 shall be reaching a final altitude of 6,476 metres (21,247 ft) above sea level. The team shall be composed of two main groups. A larger cohort that shall be trekking to Base camp located at 5000m. There will additionally be a smaller cohort that shall then continue to ascend to the summit of Mera Peak.

A proposed ascent profile for the expedition is highlighted below.
The research shall be conducted at 4 defined locations. The first of these shall be at our baseline testing which will be conducted in London, UK and Mumbai, India. This will provide the sea-level data that we require for each volunteer.

Protocols will then be carried out at altitudes of 3600m, 4200m and 5000m for the main cohort. There will also be a small cohort which will be tested at 5800m.

The main physiological domains which will be examined are proposed to be:

- The Heart and Cardiovascular system,
- Respiratory and Pulmonary function,
- Skeletal muscle,
- Memory and cognition,
- Immune function.

**THE CHALLENGE AHEAD**

The feat of coordinating 150 inexperienced trekkers in one of the most extreme environments without supplemental oxygen in a remote region of Nepal is a major challenge in its own right. But the challenge starts long before the team pulls on its hiking boots.

Our journey is just beginning and over the next 18 months the team will be working hard in ensuring a successful mission.

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**We are interested in hearing from you if you would like to be involved in MJExped2013.**

**Our research team is actively looking to recruit interested scientists and doctors.**

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**CONTACT US**

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