

# Scientists tackle mystery mountain illness

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Experts at the University are studying an illness known as HAPE (high altitude pulmonary oedema), which causes fluid to build up in the lungs can and can occur from as low as 2,500 metres, affecting people of all age groups and fitness levels.

Little is known about the condition and there is no way of predicting who is likely to be affected although studies have suggested a genetic link. It is thought that around one in 50 people who travel to high altitudes suffer from HAPE.

The database, which is being run in collaboration with researchers from America, Austria, Bolivia, and Britain, aims to encourage registration from previous sufferers of HAPE. It will facilitate research that could potentially identify people susceptible to the condition. Genetic studies using the database may also provide greater understanding of what happens in HAPE sufferers' lungs.

Dr Kenneth Baillie, co-ordinator of the database and a researcher at the University of Edinburgh, said: “There is no way of predicting who is likely to suffer from HAPE, as it can affect anyone even if you are young, healthy and active. Because it occurs from 2,500 metres, it can affect skiers as well as mountaineers. Treatment options are very limited and sufferers need to descend from high altitude and see a doctor straight away.

“A major problem is that sufferers may not know that they have HAPE until it is too late. Once the symptoms start to appear – which may

include breathlessness at rest and blueness of the lips – sufferers may not realise the severity of the illness and the urgency of reducing altitude and seeking medical treatment. It may also be that sufferers are not in a position to go down a mountain in time, whether this is due to how ill they are, weather conditions or how high up they are. This all reinforces how important it is to find out who may be susceptible in advance so that they can either try to prevent the onset of the illness or not put themselves in a potentially life-threatening situation.”

Use of the database will be open to researchers worldwide, although details of individual members will not be given out without their consent.

HAPE is the most common form of altitude sickness and can kill within hours if untreated. As the illness progresses, it can cause drowsiness and lack of coordination, leading to a coma and death. As cases are not registered, nobody knows exactly how many people have died as a result of the condition.

The main treatment is descent, but this is often impossible as a sufferer may need to be carried for miles on a stretcher, only to descend a few hundred feet. Other treatments include breathing oxygen and two drugs, dexamethasone and nifedipine, which may not be available when somebody becomes ill.

Blood vessels inside the lungs constrict in response to low oxygen to such an extent that fluid is forced from the capillaries (narrow tubes through which blood cells pass), leading to flooding of the lung's air sacs.

Risk factors include rapid ascent, physical exertion and a previous history of the condition. By understanding who is most at risk, potential sufferers could take precautions such as climbing much more slowly or taking drugs to prevent the onset of the condition.

Source: University of Edinburgh

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