

Background

The user suffers from interstitial lung disease, where the spaces around the air sacs of the lungs are swollen and incapable of bringing oxygen into the body themselves. The user therefore needs an almost constant supply of oxygen, usually around 25ml per minute. A portable supply of liquid oxygen is carried on the child's back in a small rucksack.



The Helios oxygen carrier weighs between 0.5 and 1.6kg depending on how full it is, and is of dimensions 270x150x90mm. The bag is made for a larger size of Helios and so it is too long and the controls and vents do not fit as they are meant to. The dimensions of the bag are 360x180x120mm. There is no padding in the back support and it is a flimsy bag. Straps can be used around the waist to make the bag more secure.



Mesh material is needed around the vents of the oxygen supply to allow air intake. The Helios must be kept either upright or completely flat, otherwise it can cause freezing. The tubes must exit the Helios at the right angle or kinks can cause the flow to stop. A hole has been cut in the bag for this purpose. The excess tube is stored in the front of the bag and then fed behind the bag.