

## Contacts:

Präsident:

Dr. Harald Müller, 41539 Dormagen

Tel. 00492133478-484

harald.mueller@clusterkopfschmerz-selbsthilfe.de

Generalsekretär:

Jakob C. Terhaag, 52525 Waldfeucht

Tel. 004924559309954

jakob.c.terhaag@clusterkopfschmerz-selbsthilfe.de

Vizepräsident:

Hans-Josef Liebertz, 50321 Brühl

Tel. 00492232931550

h.josef.liebertz@clusterkopfschmerz-selbsthilfe.de

Schatzmeisterin:

Anja Alsleben, 48599 Gronau

Tel. 00492562965-255

anja.alsleben@clusterkopfschmerz-selbsthilfe.de

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CSG e.V.

Talstr. 53

52525 Waldfeucht

Tel. 0049 2455 / 9309954

[www.clusterkopfschmerz-selbsthilfe.de](http://www.clusterkopfschmerz-selbsthilfe.de)

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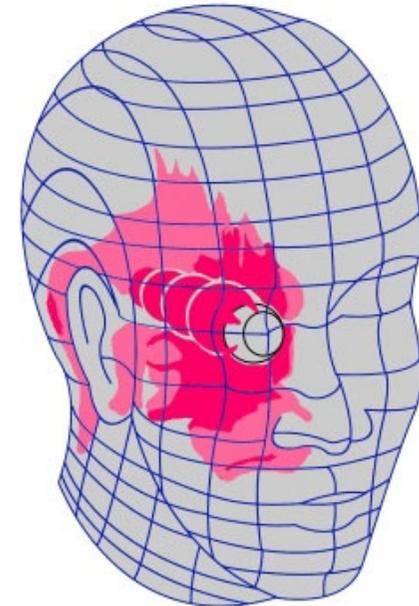
[Jakob.C.Terhaag@clusterkopfschmerz-selbsthilfe.de](mailto:Jakob.C.Terhaag@clusterkopfschmerz-selbsthilfe.de)

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## Oxygen in the Treatment of Cluster Headache

# CSG

## Clusterheadache Patient's group in Germany



### Oxygen, what is it?

To begin with, oxygen is a chemical element with the symbol  $O_2$ . Oxygen is vital for all animal and human organisms, Life with oxygen is impossible.

In medicine, oxygen is used in its pure form. It is found in all applications in areas relating to breathing.

### Oxygen and Cluster Headaches.

For years oxygen has been the first choice of treatment for a cluster of headache attacks.

However, when using an oxygen treatment there are certain points to be aware of to achieve the right effects.

### Conveyance

To reach the required effects it is imperative that the oxygen is administered through a face mask. So called "oxygen showers" are unsuitable.

### Amount

The amount of applied oxygen, measured in Litres per minute (l/min) is imperative.

In the relevant specialised literature a supply level of 7 l/min is recommended.

Some experience has shown however that a level of 15 l/min is required for success.

### Posture

Posture during inhalation of oxygen is unexplainably decisive to achieve success.

Therefore it is recommended that the patient inhales the oxygen in an upright or bending position, rather than lying down.

### Timing of the Treatment

The optimal time to begin inhaling the oxygen is at the first signs of a cluster attack. The chances of success decrease the longer you wait. The inhalation should begin at the latest 3-4 minutes

after the onset of the attack, the oxygen treatment will not help if the attack is in full swing.

### Duration of Inhalation

At the minimum, a five minute period of inhalation of the required oxygen amount is recommended. Longer periods could also be required.

### Consumption

Consumption can be measured by the length of the inhalation and the level of oxygen supply.

An 8 minute application of 10 l/min would be a consumption of 80 litres of oxygen per treatment. Reading into these figures, it is evident that the acquisition of a large supply of oxygen is imperative.

### Bottle Size

In industry 2 sizes of bottles are used; 2 litre and 10 litre.

The steel bottles are pressure filled with 200 bar. This results in an oxygen supply of 400 litres or rather 2000 litres. Considering that cluster attacks appear around 4 times a day and each application needs 80 litres of oxygen, (up to 300 litre daily) a 10 litre bottle would be recommended. A 2 litre bottle could be used e.g. as an emergency back-up or for holidays.

### Components of an Oxygen System

A capable oxygen system consists of the following components.

- Oxygen bottle; 2 or 10 litre steel bottle.
- Pressure reducing fittings with pressure gauge to reduce pressure (supply pressure up to 200 bar) and a supply flow amount regulator.
- Moisturiser (only with 10 litre bottles) to moisten the oxygen gases to avoid damage due to the drying out of the respiratory tract.

- Face mask, secured around the mouth and nose with an elastic band.
- Chassis with holding device for a 10 litre bottle.
- Carrier bag with sling for a 2 litre bottle

### Safety Points

As the oxygen bottles are highly pressurised it is advisable to handle them with the utmost care. In particular the lid should definitely not be exposed to any impact, to avoid the threat of bursting.

The fittings and the lid should be kept absolutely fat free, as fat could cause a chemical reaction which would cause an explosion.

The oxygen bottles should not be exposed to high temperatures as this causes the pressure inside the bottle to increase and this could again result in an explosion.

Never use oxygen close to naked flames as oxygen will accelerate the fire.



Fig. 1: 10 l oxygen bottle in a chassis



Fig. 2: 2 l oxygen bottle in an bag with sling