

CLAIMS

1. A headgear for a patient interface comprising:
 - at least one headgear member, wherein the headgear member(s) comprise a resilient headband, and
 - a pair of flexible joints adapted to connect the at least one headgear member to the patient interface and/or a pair of flexible joints connecting one of the headgear members to an adjacent headgear member,
 - each flexible joint allowing free relative movement between the at least one headgear member and the patient interface or between the adjacent headgear members with at least two degrees of freedom,
 - wherein each flexible joint is a member formed from a soft flexible material,
 - wherein the resilient headband is shaped to fit a user's head with each end of the headband located to and biased against a respective side of the user's head, and
 - wherein the resilient headband is configured such that in an un-deflected condition the distance between the ends of the resilient headband is less than a width of the user's head so that, in use, deflection of the resilient headband to fit the user's head biases the ends of the resilient headband against sides of the user's head.
2. The headgear of claim 1, each flexible joint allows for elongation to allow free relative movement between the at least one headgear member and the patient interface or between the adjacent headgear members.
3. The headgear of any one of the preceding claims, wherein each flexible joint comprises a hinge.
4. The headgear of any one of the preceding claims, wherein each flexible joint is adapted to bend or fold laterally to a longitudinal axis of an end portion of the headgear member to which the flexible joint is connected.
5. The headgear of any one of the preceding claims, wherein the flexible joint is an elastomeric member.

6. The headgear of any one of the preceding claims, wherein each flexible joint is integral with one of the at least one headgear member.

7. The headgear of any one of the preceding claims, wherein for each flexible joint that connects adjacent headgear members, one of the respective headgear members is moveably attached to the flexible joint to move relative to an adjacent headgear member along a longitudinal axis of said headgear member,
wherein the flexible joint comprises at least one passageway, and
the at least one passageway is configured to allow for the passage of the headgear member.

8. The headgear of any one of the preceding claims, wherein the headgear member comprises at least one stop to limit movement of said headgear member relative to the flexible joint.

9. The headgear of any one of the preceding claims, wherein the headgear comprises at least one pair of said flexible joints, and each one of the pair of flexible joints engages a respective side of the user's head in use.

10. The headgear of any one of the preceding claims,
wherein at least one of the headgear members is formed from a stiff resilient material,
wherein the modulus of elasticity of the at least one of the headgear members is at least about 0.5 GPa, or at least about 1 GPa, or at least about 1.5 GPa, or at least about 1.8 GPa, or at least about 2 GPa, or at least about 3 GPa, and
wherein the flexible joint is formed from a material with a modulus of elasticity of less than about 0.2 GPa, or less than about 0.1 GPa, or less than about 0.06 GPa.

11. The headgear of any one of the preceding claims, comprising at least one positioning tab connected to, or forming part of, at least one said headgear member.

12. The headgear of any one of the preceding claims, comprising a pair of engagement portions, each engagement portion configured to engage a side of the user's head in use,

wherein the engagement portions comprise a textured surface, and
wherein the textured surface comprises one or more of: a knurled portion, a
waved surface, a ribbed surface, a roughened surface, or comprise micro or nano
projections.

13. The headgear of any one of the preceding claims, wherein the headgear
comprises:

a pair of arms, each arm attached to the resilient headband, each arm
adapted to connect to a patient interface, and

wherein each arm is attached to the resilient headband by a flexible joint,
each flexible joint allowing the arm to move freely relative to the resilient headband
with at least two degrees of freedom.

14. The headgear of claim 13, wherein each arm is attached to an end or end
portion of the resilient headband.

15. The headgear of any one of claims 13 to 14, wherein each arm is a resilient
arm.

16. The headgear of any one of the preceding claims, wherein the resilient
headband has a central portion, and two end portions,
wherein the central portion is stiffer than the end portions.

17. The headgear of any one of the preceding claims, wherein the resilient
headband has a central portion, and two end portions,
wherein the central portion has a larger cross-sectional area than the end
portions.

18. The headgear of any one of claims 16 to 17, wherein the central portion is
made of a first material and the end portions are made of a second material,
wherein the first material is relatively stiffer than the second material.

19. The headgear of any one of the preceding claims, wherein the headgear has
a first lateral distance between the flexible joints, a second lateral distance between
left and right side portions of the resilient headband, and a third lateral distance
between ends or end portions of the arms attached to or attachable to the patient
interface,

wherein each lateral distance is across and perpendicular to a sagittal plane position of the resilient headband, and

wherein the first lateral distance is less than the second and third lateral distances.

20. A patient interface assembly comprising:

a patient interface,

a headgear, wherein the headgear is the headgear of any one of the preceding claims, the headgear configured to, in-use, locate the patient interface upon a patient's face.