Claims

1. An apparatus for assisting a patient, the apparatus comprising:

a base;

a primary member coupled to the base at a coupling end, the primary member extending along a longitudinal axis from the coupling end to a shoulder;

an interface member, the interface member being an elongate member defining a first axis, the interface member being coupled to the shoulder with the first axis extending transversely relative to the primary member;

three or more attachment members, the three or more attachment members being coupled to the interface member and extendable to extend radially from the interface member, each of the three or more attachment members being attachable via corresponding attachment elements to a sling, wherein the three or more attachment elements and the interface member are collectively rotatable as a rigid body about the first axis; and

a secondary member, the secondary member coupling the interface member to the shoulder, wherein the interface member is coupled to a far end of the secondary member, the secondary member extending from the shoulder to the far end.

2. The apparatus as recited in claim 1, further comprising a joint, the joint and the far end of the secondary member forming an elbow, wherein the secondary member enables the interface member to remain parallel relative to the base.

3. The apparatus as recited in claim 2, wherein the interface member is translatable between any two heights relative to the base by a movement of the secondary member relative to the primary member.

4. The apparatus as recited in claim 3, wherein the interface member is constrained to a translational movement parallel to the longitudinal axis in moving between the any two heights.

5. The apparatus as recited in any one of claims 1 to 4, wherein at least three of the three or more attachment members are distributed along the first axis.

6. The apparatus as recited in any one of claims 1 to 5, wherein four of the three or more attachment members are disposed in pairs in mirror symmetry about a middle plane of the interface member.

7. The apparatus as recited in any one of claims 1 to 6, wherein the three or more attachment members are coupled with the interface member and biased towards an extended position, the extended position of any one of the three or more attachment members being one in which the one of the three of more attachment members is extended radially from the interface member.

8. The apparatus as recited in any one of claims 1 to 4, wherein the three or more attachment members are displaceable between an extended position and a retracted position, and wherein in the retracted position, a respective one of the three or more attachment members is at least partially received in a respective slot of the interface member.

9. The apparatus as recited in claim 8, wherein each of the three or more attachment members is releasably lockable in the retracted position.

10. The apparatus as recited in any one of claims 1 to 9, wherein the corresponding attachment elements are spaced apart from one another along the first axis.

11. The apparatus as recited in any one of claims 1 to 10, wherein the corresponding attachment elements are radially spaced apart from one another about the first axis.

12. The apparatus as recited in any one of claims 1 to 11, wherein the corresponding attachment elements are spaced apart along the first axis, and wherein at least two of the corresponding attachment elements are spaced apart from one another along a second axis, the second axis transverse to the first axis.

13. The apparatus as recited in any one of claims 1 to 12, further comprising the sling coupled to the corresponding attachment elements to define a receiving surface to receive the patient, wherein a rotation of the interface member provides a corresponding tilt of the receiving surface.

14. The apparatus as recited in claim 13, wherein the sling includes attachment points coupled to the corresponding attachment elements, and wherein a center of mass of the sling is disposed between the attachment points.

15. The apparatus as recited in any one of claims 1 to 14, further comprising:

a controller in signal communication with the primary member, wherein the controller is configured to move the corresponding attachment elements by moving the primary member along a path and/or rotating the interface member.

16. The apparatus as recited in claim 15, further comprising at least one sensor in signal communication with the controller, wherein the at least one sensor is configured to determine a distance between the interface member and the patient, and wherein responsive to the distance being below a threshold, the controller halts displacement of the attachment elements.

17. The apparatus as recited in any one of claims 1 to 16, wherein the base comprises a first support surface, the base being coupled to and supporting the primary member, wherein the apparatus is dockable relative to a second support surface.

18. The apparatus as recited in claim 17, wherein the primary member is constrained to a translational displacement along a path.

19. The apparatus as recited in claim 17 or claim 18, wherein the primary member is moveable between a proximal side and a distal side of the base, relative to the second support surface.

20. The apparatus as recited in claim 19, wherein the primary member is coupled to a track extending between the proximal side and the distal side of the base.

21. The apparatus as recited in claim 17 wherein the coupling end of the primary member is slidably coupled to the base to move along a width of the base, wherein a movement in the primary member is supported by at least one support arm in a support position.

22. The apparatus as recited in claim 21, wherein the at least one support arm is pivotably coupled to the base to move between a folded position and the support position, relative to the base.

23. The apparatus as recited in any one of claims 1 to 22, wherein the apparatus is actuatable between an operating state and a folded state, wherein in the folded state, the interface member is disposed at a back of the base.

24. The apparatus as recited in any one of claims 1 to 23, wherein the base comprises a wheelchair.

25. The apparatus as recited in claim 8, wherein each respective one of the three or more attachment members in the retracted position is aligned parallel to the first axis.